



**1997 ARIZONA
BEHAVIORAL RISK FACTOR SURVEY
ANNUAL REPORT**

EPIDEMIOLOGIC REPORT



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BEHAVIORAL RISK FACTOR SURVEY (BRFS) 1997 ANNUAL REPORT

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EXECUTIVE SUMMARY

This report examines specific high-risk behaviors and chronic diseases in Arizona for 1997. The Annual Survey Results portion contains information on high-risk behaviors and chronic diseases that are surveyed each year. The Module Survey Results portion contains information on high-risk behaviors and chronic diseases that may or may not be surveyed each year. The Behavioral Risk Factors Survey (BRFS) program is a valuable rich source of unique state level public health data which have become an integral part of overall health promotion and disease prevention/intervention planning throughout Arizona.

Highlights of the 1997 Behavioral Risk Factors Survey:

- h** The prevalence of persons reporting no leisure-time physical activity in the past month was 38.6%, an increase of more than 5% from 1996.
- h** 24.8% of Arizonans had a body mass index that classified them as overweight.
- h** Smoking prevalence among adult Arizona residents decreased from 23.7% in 1996 to 21.0% in 1997.
- h** 92.1% of persons reported that they “always” use a safety belt when traveling in a vehicle.
- h** 78.6% of female respondents 40 years of age or older reported that they have had at least one mammogram.
- h** 40.1% of all Hispanics surveyed reported that they have never had their blood cholesterol level checked.
- h** The prevalence of binge drinking among Arizona residents has decreased sharply from 13.5% in 1996 to 8.8% in 1997.
- h** 52.8% of women age 18 to 44 years of age correctly responded that folic acid (vitamin B9) prevents birth defects.
- h** 77.6% of chronic drinkers were male.
- h** 14.6% of the adult population had no health care coverage or insurance, a decrease from the previous year.
- h** 82.8% of respondents reported that they consume less than 5 servings of fruits/vegetables per day.
- h** 72.1% of respondents age 65 and older reported that they received an influenza vaccination in the last 12 months.
- h** 39.5% of respondents with children reported that their oldest child never wears a bicycle helmet while riding a bicycle.

1997 Behavioral Risk Factor Survey: Risk Factor/Chronic Disease Prevalence, Percentage Within Demographic Groups

GROUPS	Risk Factor (Prevalence)								
	Diabetes	Acute (Binge) Drinking	Chronic Drinking	Drinking and Driving	No Health Care Coverage	* No Mammography	Overweight (BMI)	Safety Belt Non-Use	No Leisure-time Activity
<u>Sex</u>									
Male	2.3	12.2	4.1	2.5	15.9	-	25.5	9.1	35.1
Female	3.9	5.6	1.1	‡	13.4	21.4	24.2	6.8	41.9
<u>Age</u>									
18 - 24	1.4	17.1	4.0	2.6	35.4	-	18.7	18.1	34.0
25 - 34		14.0			20.7	-	27.0	7.0	29.8
35 - 44		9.3			16.5	28.0	23.7	9.7	39.0
45 - 54	3.9	5.1	1.8	‡	8.1	20.0	31.2	4.0	37.4
55 - 64		5.1		‡		19.4	28.0	6.9	45.0
65+		2.5		‡	4.2	7.4	20.2	4.3	48.1
<u>Education</u>									
Never Attended School	14.3	8.2		‡					
Elementary				‡	34.6	49.1	33.7	18.3	76.9
Some High School				‡	27.0	41.7	37.0		53.1
High School Graduate or GED	1.7	8.5	1.5	1.2	13.9	16.4	24.5	8.0	50.2
Some College or Tech School	2.5	10.5	3.5		12.4	21.8	23.6	7.9	33.7
College Grad	2.5	7.3	3.2	1.7	14.2	22.4	23.9	5.3	24.3
<u>Income</u>									
< \$10,000	7.6	9.1		‡	32.9		20.7		43.0
\$10 - \$14,999				‡	37.2	34.9	15.8	19.5	53.4
\$15 - \$19,999				‡	26.9	22.4	29.5	9.8	43.5
\$20 - \$24,999	4.7	9.4	2.5	2.1	25.7	28.6	30.2	8.9	48.1
\$25 - \$34,999	2.9	13.1			8.0	22.9	26.8	5.7	33.5
\$35 - \$49,999	1.7	9.4				21.7	20.1		28.2
\$50 - \$74,999			5.0	‡	8.5		33.6	7.6	19.0
\$75,000		5.2		‡		24.6	35.9		19.0
<u>Race</u>									
White	2.8	8.5	2.5	1.2	11.5	21.2	23.9	7.4	32.9
Non-White	5.1	11.1	‡	‡	38.5	24.3	32.3	12.2	49.8
<u>Ethnicity</u>									
Hispanic	6.5	9.6	‡	‡	26.2	35.2	35.6	8.9	47.2
Non-Hispanic	2.4	8.6	2.6	1.6	12.4	19.9	22.8	7.7	37.0

* Among women 40 years of age or older. ** Among persons 18 - 64 years of age. M Among women 18-44 years of age. - = Not applicable ‡ Cell size < 8.

1997 Behavioral Risk Factor Survey: Risk Factor/Chronic Disease Prevalence, Percentage Within Demographic Groups

GROUPS	Risk Factor (Prevalence)					
	Current Smoker	Less Than 5-A-Day Fruits/Vegetables	**Not HIV Tested	No Cholesterol Screening	No Influenza Vaccination in the last 12 Months	M Not Heard of Folic Acid
<u>Sex</u>						
Male	21.9	84.4	66.9	31.5	67.6	-
Female	20.2	81.4	67.7	25.9	67.1	47.2
<u>Age</u>						
18 - 24	24.8	83.2	60.6	65.5	80.7	53.4
25 - 34	24.1	88.0	57.6	41.2	83.3	37.8
35 - 44	23.6	84.4	67.6	31.9	83.8	53.2
45 - 54	25.2	86.0	72.2	13.4	72.4	-
55 - 64	24.2	83.4	85.3	11.6	51.7	-
65+	6.8	71.8	-	10.3	26.8	-
<u>Education</u>						
Never Attended School	30.0					
Elementary		70.0	78.9	51.8	75.2	81.9
Some High School		84.1	58.3	33.5	66.2	
High School Graduate or GED	21.7	87.0	78.2	31.2	68.9	42.2
Some College or Tech School	25.1	83.9	67.7	26.6	64.5	48.3
College Grad	13.2	77.2	55.2	25.1	68.6	42.4
<u>Income</u>						
< \$10,000	25.8	80.76	69.6	32.9	77.2	24.2
\$10 - \$14,999	15.2	92.2	79.6	60.8	85.8	54.4
\$15 - \$19,999	23.1	74.4	59.9	47.7	75.6	68.0
\$20 - \$24,999	28.6	88.4	62.1	38.2	75.0	41.6
\$25 - \$34,999	27.4	81.4	65.2	28.5	68.6	46.7
\$35 - \$49,999	15.2	84.2	74.5	28.8	70.2	50.6
\$50 - \$74,999	15.5	85.2	55.1		64.8	
\$75,000		91.8	27.1	13.3	74.4	66.5
<u>Race</u>						
White	21.3	84.0	67.6	27.0	66.0	45.9
Non-White	18.7	73.5	65.2	41.3	77.5	52.5
<u>Ethnicity</u>						
Hispanic	19.9	84.5	65.1	40.1	78.9	51.6
Non-Hispanic	21.3	82.5	67.8	26.4	65.1	45.7

* Among women 40 years of age or older. ** Among persons 18 - 64 years of age. M Among women 18-44 years of age. - = Not applicable

RISK FACTORS/CHRONIC DISEASE DEFINITIONS

Acute (Binge) Drinking	Respondents reporting they had five or more alcoholic drinks on one or more occasions, in the past month.
Cholesterol Awareness	Respondents reporting that they have never had their blood cholesterol checked.
Chronic Drinking	Respondents reporting they had on average 60 or more alcoholic drinks a month.
Current Smoking	Respondents reporting smoking 100 cigarettes and who smoke now (regularly and irregularly).
Diabetes	Respondents reporting that they have been told by a doctor that they have diabetes.
Drinking and Driving	Respondents reporting they have driven after having too much alcohol to drink one or more times in the past month.
Folic Acid	Female respondents ages 18 to 44 years reporting that they did not know that folic acid prevented birth defects.
Fruits/Vegetables	Respondents reporting that they consume less than five servings of fruits and vegetables daily.
Health Care Plan	Respondents reporting that they do not have health care coverage.
HIV/AIDS Testing	Respondents ages 18 to 64 years reporting that they have not been tested for HIV.
Injury Control	a) Respondents reporting that their oldest child never wears a bicycle helmet. b) Respondents reporting that they never test all the smoke detectors in their home.
Mammography	Female respondents 40 years of age and older reporting that they have never had a mammogram.
Mammography and/or Breast Exam	Female respondents 40 years of age and older reporting that they have never had a mammogram and/or clinical breast examination.

No Influenza Vaccination	Respondents reporting that they have not had an influenza vaccination in the last 12 months.
No Leisure-Time Activity	Respondents reporting that they did not participate in physical activity in the past month.
Overweight	The CDC defines obesity as: females with a BMI (Body Mass Index) ≥ 27.3 and males with a BMI ≥ 27.8 (BMI is weight in kilograms divided by height in meters squared (W/H^2)).
Safety Belt Non-Use	Respondents reporting they "sometimes," "seldom," or "never" use safety belts.

INTRODUCTION

In 1996, 36,579 Arizona residents died. The 1996 Arizona death rate* of 531.2 per 100,000 persons was higher than the U.S. death rate* of 494.1 per 100,000 persons. The table below lists the top 10 causes of death of Arizona residents in 1996. The death rate for 6 out of 10 of these causes was higher in Arizona than the U.S. The 4 causes of death that Arizona did not exceed U.S. death rates were heart disease, cancer, diabetes, and infectious parasitic diseases.¹

It is well known that much disease and injury morbidity and mortality is associated with high-risk behaviors. Behaviors which contribute significantly to disease and death include cigarette smoking, lack of physical activity and alcohol consumption.² Measurements of the prevalence of high risk behavior serves as an indicator for potential morbidity and mortality. This measurement provides information on the persons most likely to engage in this behavior.

Arizona has participated in the Behavioral Risk Factor Survey (BRFS) since 1982. Through a cooperative agreement with the Centers for Disease Control and Prevention (CDC), the Arizona Department of Health Services (ADHS) implemented BRFS as a method to collect data annually on health risk behaviors of adult residents, 18 years of age and older, excluding institutionalized persons. The purpose of BRFS is to provide data that can be used to plan, implement and monitor health promotion and disease prevention efforts among Arizonans.

* All death rates are age-adjusted; all cause mortality rates adjusted to the 1940 U.S. population.

1996 ARIZONA LEADING CAUSES OF DEATH

RANK	CAUSE OF DEATH	NUMBER OF DEATHS	PERCENTAGE OF TOTAL DEATHS
1	Heart Disease	9,995	27.3%
2	Cancer	8,327	22.8%
3	Cerebrovascular Disease	2,340	6.4%
4	Chronic Obstructive Pulmonary Disease	2,140	5.9%
5	Unintentional Injury	2,092	5.7%
6	Influenza and Pneumonia	1,284	3.5%
7	Infectious Parasitic Diseases	911	2.5%
8	Diabetes	898	2.5%
9	Suicide	762	2.1%
10	Homicide	476	1.3%

References

1. Mrela C. Arizona Health Status and Vital Statistics. Office of Health Planning, Evaluation and Statistics. Arizona Department of Health Services, 1996.
2. Centers for Disease Control and Prevention. CDC Surveillance Summaries, December 27, 1996. MMWR 1996; 45 (No. SS-6).

METHODOLOGY

A. SAMPLING DESIGN

The Arizona BRFS is a random sample telephone survey. Using the Waksberg cluster-based version of random digit dialing and Computer Assisted Telephone Interviewing (CATI) system, the survey has the potential of representing 93% of all households in Arizona (i.e., those that have telephones according to U.S. West Communications data). A cluster size of three was used for maximum efficiency and minimum loss of precision. A sample size of 1,904 interviews over a 12-month period was selected to achieve an acceptable 95% confidence interval of $\pm 3\%$ on risk factor prevalence estimates of the adult population. This means that the estimated prevalence of any risk factor from the survey represents the total population of Arizona residents very well. Prevalence estimates of individual demographic variables, containing smaller sample sizes, do not achieve the same level of accuracy as the total sample.

Interviewers, employed by ADHS, contacted the residences during weekdays between 9:00 a.m. and 9:00 p.m. and Saturdays between 8:30 a.m. and 4:30 p.m. After a residence had been contacted, one adult (18 years of age or older) was selected from all adults residing in the household to be interviewed. Interviews were collected during a two-week period each month. The response rate for this year's survey was 93.7%.

B. QUESTIONNAIRE

The questionnaire, designed through cooperative agreements with the CDC, was divided into three sections. The first section contained questions on health risk behavior; the second section contained demographic information; and the third section contained optional modules.

C. DATA ANALYSIS

The data collected by the ADHS Office of Chronic Disease Epidemiology was compiled and weighted by the CDC. Weighted counts were based on the 1997 Arizona population to accurately reflect the population demographics. The weighting factor considered the number of adults and telephone lines in the household, cluster size, stratum size, and age/race/sex distribution of the general population.

All analysis presented are based on cell size counts of at least 8 cases. The demographic information that was collected and presented in these results includes sex, age, education, household income, race, and ethnicity.

Analysis for the table “1997 Behavioral Risk Factor Survey: Risk Factor Prevalence, Percentage Within Demographic Groups” were conducted by the CDC. This table presents the percentage of high-risk behavior within each demographic group for each of the 12 risk factors and 1 chronic disease. The analysis of high risk groups for the results of each section was conducted by the Office of Chronic Disease Epidemiology. These tables present the demographic information for persons reporting a high-risk behavior or chronic disease.

I
ANNUAL SURVEY RESULTS:
ANALYSIS OF HIGH RISK GROUPS

A. DIABETES

Diabetes is associated with long-term complications that affect almost every major part of the body. This chronic and disabling condition affects primarily older individuals. It can cause blindness, heart disease, strokes, kidney failure, amputations, nerve damage, and birth defects in babies born to women with diabetes. Because the U.S. population continues to grow older, concerns on maintaining quality of life have sparked

an interest in controlling the onset and related illnesses of persons with diabetes.^{1,2}

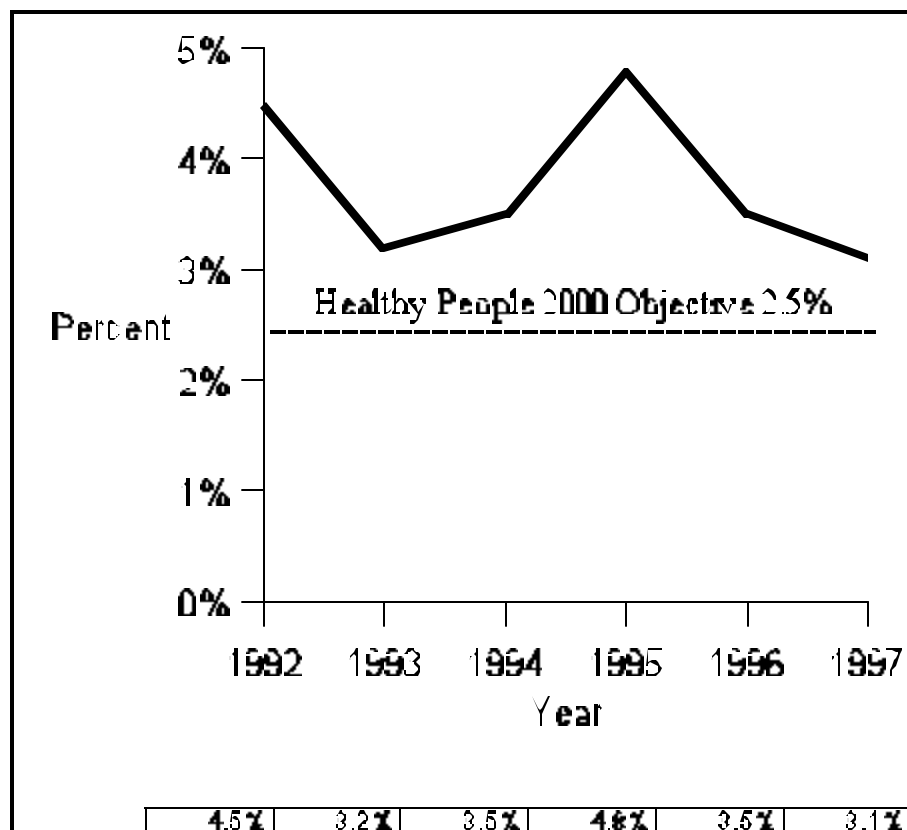


Figure I-A-1. 1992-1997 percent of BRFs respondents reporting that they were told they had diabetes along with the Healthy People 2000 Objective 17.11.

According to the 1997 BRFs, 3.1% of all respondents reported that they were told they have diabetes. This percentage, shown in Figure I-A-1, is similar to the 3.5% reported in 1996. The National Center for Health Statistics *Healthy People 2000 Review 1997* has defined its objective for diabetes prevalence at 2.5% by the year 2000.

Table I-A-1 on the opposite page describes the survey respondents who reported as having diabetes. Greater than half

(64.1%) of these individuals are female. Most diabetic persons are 55 years of age or older (75.1%) and 65.5% of them have at least a high school education. Reported diabetics are primarily white (81.1%) and non-Hispanic (65.8%). Household income for 27.8% of these persons was less than \$20,000.

As a special section of the 1997 Arizona Behavioral Risk Factor Surveillance Survey, diabetics were asked an additional series of questions pertaining to the control of their condition. Of those responding, 28.6% reported that they take insulin. All diabetics who take insulin reported using insulin at least once per day with 49.3% of these taking insulin more than one time per day.

1997 Arizona BRFs Characteristics of persons told they had diabetes	
GROUPS	PERCENTAGE
<u>Sex</u>	
Male	35.9
Female	64.1
<u>Age</u>	
18-24	24.9
25-34	
35-44	
45-54	34.4
55-64	
65+	
40.7	
<u>Education</u>	
Never Attended School	8.7
Elementary	
Some High School	
High School Graduate or GED	18.4
Some College or Tech School	24.9
College Grad	22.2
Refused	1.5
<u>Income</u>	
< \$10,000	27.8
\$10-\$14,999	
\$15-\$19,999	
\$20-\$24,999	18.9
\$25-\$34,999	35.8
\$35-\$49,999	
\$50-\$74,999	
\$75,000	
Refused/Unknown	17.5
<u>Race</u>	
White	81.1
Non-White	18.9
<u>Ethnicity</u>	
Hispanic	34.2
Non-Hispanic	65.8

Table I-A-1. 1997 BRFs results: characteristics of persons told that they had diabetes.

When asked how often they check their blood sugar level, 64.6% of the diabetics who take insulin stated “one or more times per day.” In contrast only 14.7% of diabetics who do not take insulin reported checking their blood sugar levels one or more times per day.

Finally, *Healthy People 2000* Objective 17.23 sets a goal in order to increase to 70% the number of diabetics receiving annual dilated eye exams to detect treatable retinopathy. Of the diabetics responding in the 1997 BRFs survey, 49.6% report receiving an annual dilated eye exam.²

References

1. Diabetes Overview, 1993, Vol. 92 Issue 3235, p1, 5p.
2. National Center for Health Statistics. *Healthy People 2000 Review*, 1997. Hyattsville, Maryland: Public Health Service. 1997.

B. ACUTE (BINGE) DRINKING

In 1996 the U.S. BRFS reported binge drinking behavior in 14.9% of U.S. adults 18 years of age and older.¹ Each year, there are over 20,000 alcohol-induced deaths in the United States, not including motor vehicle fatalities.² The repercussions of binge drinking among approximately 26 million Americans affects

each of us personally as well as increases our societal health care expenses.³



Figure I-B-1. 1992-1997 percent of BRFSS respondents reporting having five or more drinks on one or more occasions during the previous month.

Results of the 1997 Arizona BRFS showed binge drinking behavior among 8.8% of Arizona adults. (Figure I-B-1) This percentage is below the national average of 14.9%, and is almost five percentage points lower than Arizona's 1996 rate. Persons most likely to engage in acute drinking activity are male (67.3%), 18 to 44 years of age (79.1%) with some college education (37.3%) (Table I-B-1). Although binge drinkers are mainly White (85.5%) and non-Hispanic (82.2%), there is a greater

prevalence of binge drinking among non-White (11.1%) persons (see chart on page 2).

Current medical information on binge drinking focuses on prevention and treatment in high risk groups such as pregnant women, college students, and Native Americans. Positive behavior changes have been documented among binge drinkers receiving counseling visits from physicians in a 12 month follow-up procedure. In addition, results of a national survey among college students found "women who typically drink four drinks in a row were found to have roughly the same likelihood of experiencing drinking-related problems as men who typically drink five drinks in a row."⁴ This information suggests a need for sex-specific binge drinking standards

1997 Arizona BRFSS Characteristics of reported binge drinkers	
GROUPS	PERCENTAGE
<u>Sex</u>	
Male	67.3
Female	32.7
<u>Age</u>	
18-24	23.5
25-34	33.2
35-44	22.4
45-54	9.3
55-64	6.4
65+	5.2
<u>Education</u>	
Never Attended School	6.7
Elementary	
Some High School	
High School Graduate or GED	33.0
Some College or Tech School	37.3
College Grad	22.7
Refused	0.3
<u>Income</u>	
< \$10,000	11.7
\$10-\$14,999	
\$15-\$19,999	
\$20-\$24,999	13.2
\$25-\$34,999	35.5
\$35-\$49,999	16.6
\$50-\$74,999	5.7
\$75,000	
Refused/Unknown	17.4
<u>Race</u>	
White	85.5
Non-White	14.5
<u>Ethnicity</u>	
Hispanic	17.8
Non-Hispanic	82.2

Table I-B-1. 1997 BRFSS results: characteristics of persons reporting that they had five or more drinks on one or more occasions during the previous month.

to avoid underestimates of negative health risks for women.

References

1. Centers for Disease Control and Prevention. 1996 BRFSS Summary Prevalence Report, January 8, 1997.
2. Monthly Vital Statistics Report, Vol. 45, No. 11 Supplement 2. 1995.
3. Arizona Motor Vehicle Crash Facts 1996. Motor Vehicle Crash Statistics Unit, Arizona Department of Transportation.
4. Fleming MF, Barry KL, Manwell LB, Johnson K, London R. Brief Physician Advice for Problem Alcohol Drinkers. A Randomized Controlled Trial in Community-Based Primary Care Practices, JAMA 1997; 277 (13): 1039-45

C. CHRONIC DRINKING

Chronic alcohol abuse is associated with several illnesses including cirrhosis, anorexia, and osteoporosis. Chronic liver disease and cirrhosis is currently the tenth leading cause of death in the United States.¹ Recent studies have also shown excessive alcohol consumption to increase risk of cancers of the oropharynx, esophagus, liver, larynx and female breast.^{2,3} It is not surprising that health care costs are higher and

prognosis of survival poorer among chronic alcohol drinkers who incur these diseases.⁴⁻⁶

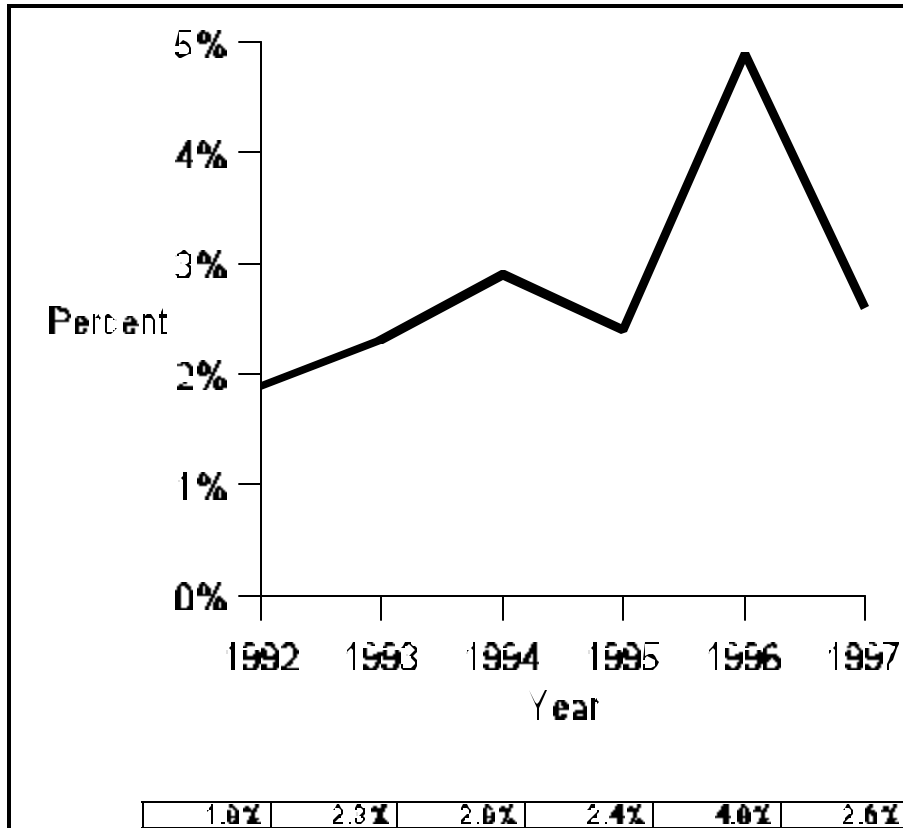


Figure I-C-1. 1992-1997 percent of BRFs respondents reporting having two or more drinks per day, i.e., 60 or more per month.

According to the 1997 Arizona BRFs, 2.6% of all respondents reported chronic drinking behavior (Figure I-C-1). This percentage is slightly below the national average of 2.95%.⁷ Chronic alcohol abusers in Arizona are primarily male (77.6%) with some college education (41.8%) (Table I-C-1).

Deaths due to chronic liver disease and cirrhosis are commonly used as an indicator of abusive alcohol consumption.⁸

Healthy People 2000

Objective 4.2 lists the target age-adjusted mortality rate of cirrhosis deaths at 6 per 100,000 by the year 2000. Sub-population targets are listed for Black males at 12 per 100,000, American Indians/Alaska Natives at 10 per 100,000, and Hispanics at 10 per 100,000.⁹ The Arizona age-adjusted mortality rates due to chronic liver disease and cirrhosis in 1996 for all persons was 10.2 per 100,000. Prevention efforts directed toward this increased rate should be developed to lower incidence of chronic alcohol abuse, especially among Arizona minority populations.

1997 Arizona BRFS Characteristics of reported chronic drinkers	
GROUPS	PERCENTAGE
<u>Sex</u>	
Male	77.6
Female	22.4
<u>Age</u>	
18-24	
25-34	50.6
35-44	14.3
45-54	
55-64	16.6
65+	18.5
<u>Education</u>	
Never Attended School	
Elementary	
Some High School	
High School Graduate or GED	24.5
Some College or Tech School	41.8
College Grad	33.7
<u>Income</u>	
< \$10,000	
\$10-\$14,999	
\$15-\$19,999	
\$20-\$24,999	22.7
\$25-\$34,999	27.2
\$35-\$49,999	
\$50-\$74,999	
\$75,000	19.5
Refused/Unknown	30.6
<u>Race</u>	
White	‡
Non-White	‡
<u>Ethnicity</u>	
Hispanic	‡
Non-Hispanic	‡

Table I-C-1. 1997 BRFS results: characteristics of persons reporting that they had two or more drinks per day (60 or more drinks per month). ‡ = Cell size too small to calculate reliable percentages.

References

1. Monthly Vital Statistics Report, Vol. 46, No. 1. National Center for Health Statistics, 1996.
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9. National Center for Health Statistics. Healthy People 2000 Review, 1997. Hyattsville, Maryland: Public Health Service. 1997.

D. HEALTH CARE COVERAGE

According to the 1997 Arizona BRFs, 14.6% of all respondents reported that they did not currently have health care coverage (Figure I-D-1). Most persons who do not have coverage earn \$15,000 to \$34,999 per year (Table I-D-1). However, the greatest prevalence of respondents with no coverage is among individuals earning between \$10,000 and \$15,000 per year (37.2%) (see chart on page 2). Lack of health

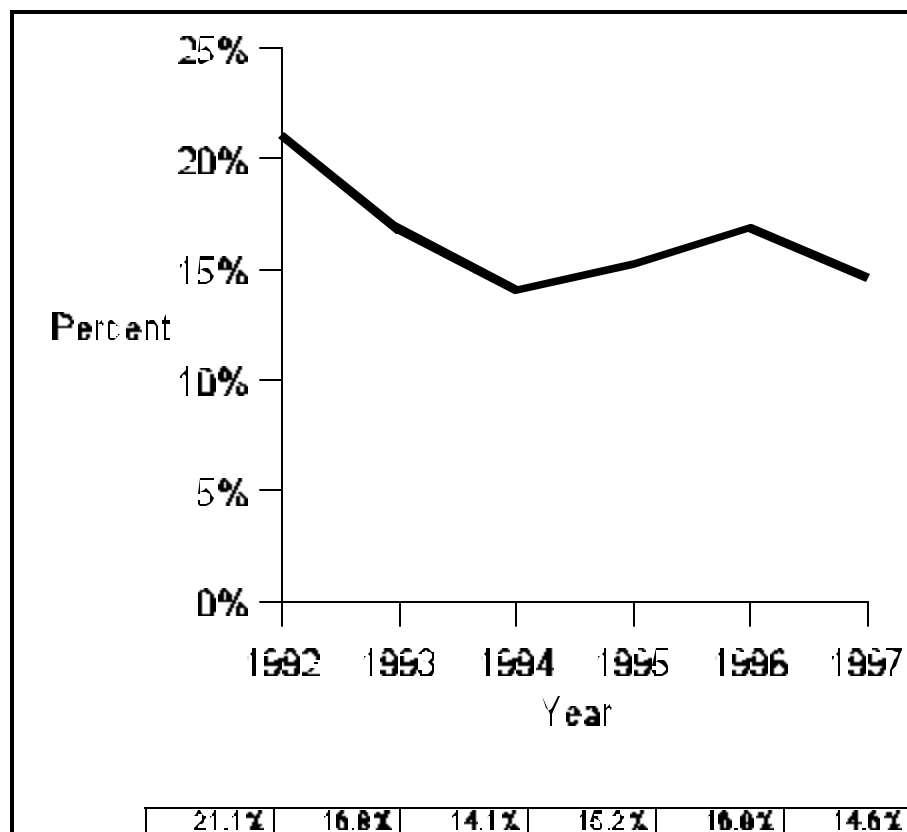


Figure I-D-1. 1992-1997 percent of BRFs respondents reporting they do not have health coverage.

care coverage is slightly greater among males and exists primarily among persons 18 to 44 years of age. Of persons who reported that they had health care coverage but not medicare, 85.6% have coverage through their employer or someone else's employer.

Of particular interest is the high percentage of Arizona Hispanics without health care coverage. Results from page 2 show 26.2% of Hispanics in this survey do not have coverage. Examination of this ethnicity reveals that 54.2% of Hispanics responded that their annual income was \$15,000 or greater. This information

suggests that, though employed, perhaps many of these Hispanics have jobs in which health care coverage is not offered through their employer, a benefit which would be less expensive than health care coverage purchased independently.

Each year the direct financial responsibility for health care increases for the consumer.¹ Moreover, national survey results show that many Americans who have coverage do not understand the basic elements of health plans. There is an increased demand for more information about physicians available in the plans and the services that are covered.²

1997 Arizona BRFS Characteristics of persons with no health care coverage	
GROUPS	PERCENTAGE
<u>Sex</u>	
Male	52.9
Female	47.1
<u>Age</u>	
18-24	29.2
25-34	29.6
35-44	23.8
45-54	9.0
55-64	8.4
65+	
<u>Education</u>	
Never Attended School	5.0
Elementary	
Some High School	9.3
High School Graduate or GED	32.4
Some College or Tech School	26.5
College Grad	26.5
Refused	0.3
<u>Income</u>	
< \$10,000	5.4
\$10-\$14,999	8.4
\$15-\$19,999	10.3
\$20-\$24,999	21.7
\$25-\$34,999	12.9
\$35-\$49,999	14.6
\$50-\$74,999	
\$75,000	
Refused/Unknown	26.6
<u>Race</u>	
White	69.6
Non-White	30.4
<u>Ethnicity</u>	
Hispanic	29.1
Non-Hispanic	70.9

Table I-D-1. 1997 BRFS results: characteristics of persons reporting that they did not have health care coverage.

References

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E. ROUTINE MAMMOGRAPHY

The key to reduction in breast cancer mortality is dependent upon successful treatments and early detection. Routine mammography will reduce breast cancer mortality by at least 30%.¹ Currently, the American Cancer Society recommends mammography in women ages 40 to 49, while the National Cancer Institute recommends that women discuss mammography with their physician. The benefits of obtaining routine

mammograms is the ability of this test to detect tumors smaller than would be detectable using self breast exam. Smaller tumors are more likely to be associated with an early stage of breast cancer and thereby respond to treatment better.

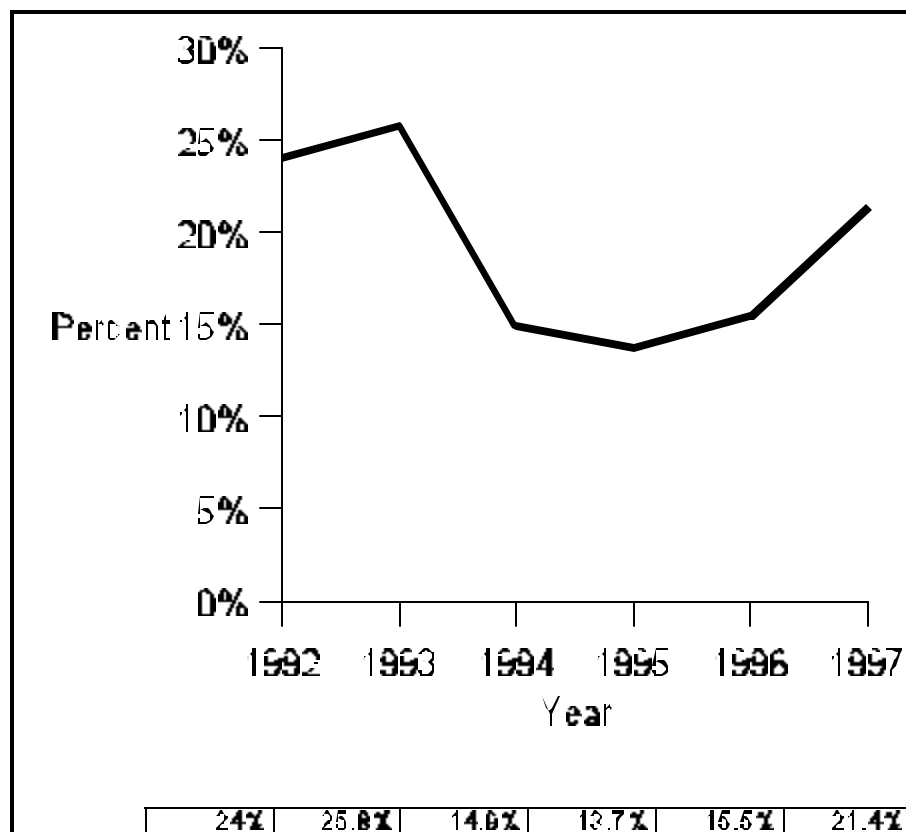


Figure I-E-1. 1992-1997 percent of BRFs female respondents 40 years of age or older reporting they have never had a mammogram.

Analysis of the 1997 Arizona BRFs showed 21.4% of females 40 years of age or older responding that they had never had a mammogram. This percentage has increased somewhat from 1996, but is not as high as the 25.8% of respondents from 1993 (Figure I-E-1). National BRFs results from 1996 showed only 20.9% of women 40 years of age or

older reported never having had a mammogram.² Although Table I-E-1 shows the greatest percentage of women responding that they have never had a mammogram are primarily 65 years of age or older (34.6%), women 40 to 44 years of age have the highest prevalence of reporting that they have never been tested (28.0%) (see chart on page 2).

Most breast cancer symptoms are discovered by women through self breast exam. Unfortunately, one-third of these women will wait at least 3 months before seeking treatment. Reasons for delayed medical care include interpretation of symptoms as non-threatening and economic

1997 Arizona BRFS Characteristics of woman never having a mammogram	
GROUPS	PERCENTAGE
<u>Sex</u>	
Male	-
Female	100.0
<u>Age</u>	
18-24	-
25-35	-
40-44	21.4
45-54	26.2
55-64	17.7
65+	34.6
<u>Education</u>	
Never Attended School	
Elementary	5.7
Some High School	7.6
High School Graduate or GED	28.2
Some College or Tech School	33.4
College Grad	25.0
<u>Income</u>	
< \$10,000	
\$10-\$14,999	5.9
\$15-\$19,999	5.0
\$20-\$24,999	13.8
\$25-\$34,999	25.5
\$35-\$49,999	13.2
\$50-\$74,999	
\$75,000	9.7
Refused/Unknown	27.0
<u>Race</u>	
White	91.1
Non-White	8.9
<u>Ethnicity</u>	
Hispanic	16.2
Non-Hispanic	83.8

Table I-E-1. 1997 BRFS results: characteristics of women 40 year of age or older reporting that they never had a mammogram.

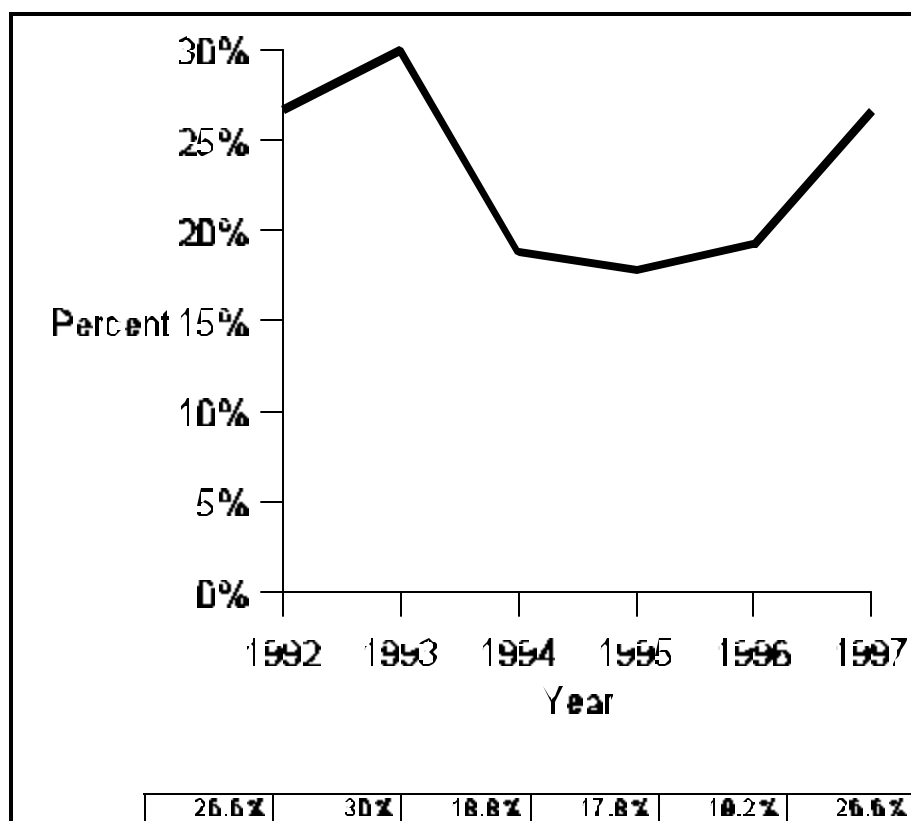
limitations to accessing services.³ Removal of these barriers is essential for successful breast cancer treatment.

References

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2. Centers for Disease Control and Prevention. 1996 BRFSS Summary Prevalence Report, January 8, 1997.
3. Facione NC, Dodd MJ, Holzemer W, Meleis AI. Helpseeking for Self-Discovered Breast Symptoms. Implications for Early Detection. Cancer Pract., 1997; 5(4): 220-227.

F. ROUTINE MAMMOGRAPHY AND/OR BREAST EXAM

According to the 1997 Arizona BRFS, 26.6% of female respondents 40 years of age or older reported never having a clinical breast exam and/or mammogram (Figure I-F-1). This percentage is increased seven percent from 1996, but is still lower than the Arizona BRFS assessment made in 1993.



Of the women responding that they never had a clinical breast exam or mammogram, 37.2% are 65 years of age or older (Table I-F-2). Results also showed 56.2% of these women have an education level of some college/technical school or higher, and most were White (90.4%) and non-Hispanic (86.6%).

Healthy People 2000 Objective 16.11 “Breast Exam and Mammogram” has recently been changed to include women 50 years of age and older. The target which included women 40 years of age

Figure I-F-1. 1992-1997 percent of BRFS female respondents 40 years of age and older reporting they have never had a mammogram and/or clinical breast examination.

Screening		American Cancer Society Recommendations for
AGE	EXAMINATION	FREQUENCY
20 - 39	Breast self-examination	Monthly
	Clinical examination	Every 3 years
40 - 49	Breast self-examination	Monthly
	Clinical examination	Yearly
	Mammography	Every 1-2 years
\$ 50	Breast self-examination	Monthly
	Clinical examination	Yearly
	Mammography	Yearly

Table I-F-1. American Cancer Society Guidelines for breast cancer detection.

1997 Arizona BRFS Characteristics of women not having a mammogram and/or breast exam	
GROUPS	PERCENTAGE
<u>Sex</u>	
Male	-
Female	100.0
<u>Age</u>	
18-24	-
25-35	-
40-44	22.0
45-54	23.9
55-64	16.9
65+	37.2
<u>Education</u>	
Never Attended School	
Elementary	4.8
Some High School	7.0
High School Graduate or GED	32.0
Some College or Tech School	29.8
College Grad	26.4
<u>Income</u>	
< \$10,000	
\$10-\$14,999	5.5
\$15-\$19,999	6.7
\$20-\$24,999	13.8
\$25-\$34,999	27.0
\$35-\$49,999	11.4
\$50-\$74,999	
\$75,000	12.9
Refused/Unknown	22.7
<u>Race</u>	
White	90.4
Non-White	9.6
<u>Ethnicity</u>	
Hispanic	13.4
Non-Hispanic	86.6

Table I-F-2. 1997 BRFS results: characteristics of women 40 years of age or older reporting that they never had a mammogram and/or breast exam.

of these women 50 years of age or older, to be tested every 1 to 2 years.¹

Finally, Table I-F-1 shows the current American Cancer Society recommendations for screening. These guidelines are the most widely used schedule for screening in the U.S. and the best way to detect early breast cancer.^{2, 3}

References

1. National Center for Health Statistics. Healthy People 2000 Review, 1997. Hyattsville, Maryland: Public Health Service. 1997.
2. Dodd GD. American Cancer Society Guidelines on Screening for Breast Cancer: an Overview. CA Cancer J Clin, 1992; 42: 177-180.
3. Stomper PC, Gelman RS. Mammography in Symptom and Asymptomatic Patients. In: Henderson IC, ed. Hematology/Oncology Clinics of North America: Diagnosis and Therapy of Breast Cancer. Philadelphia, PA: WB Saunders Co.; 1989: 611-640.

and older has been dropped. The new objective target is 60%,

G. OVERWEIGHT (BMI)

During the past ten years, increases in the prevalence of obesity have been documented. In the United States an estimated 55.0% of adults are considered overweight or obese.¹ The body mass index (BMI) is a relationship between weight and height and is used to determine obesity and assess health risk. BMI is

calculated using the following formula:

$$\text{pounds} \times (0.454) \div [\text{inches} \times (0.0254)]^2$$

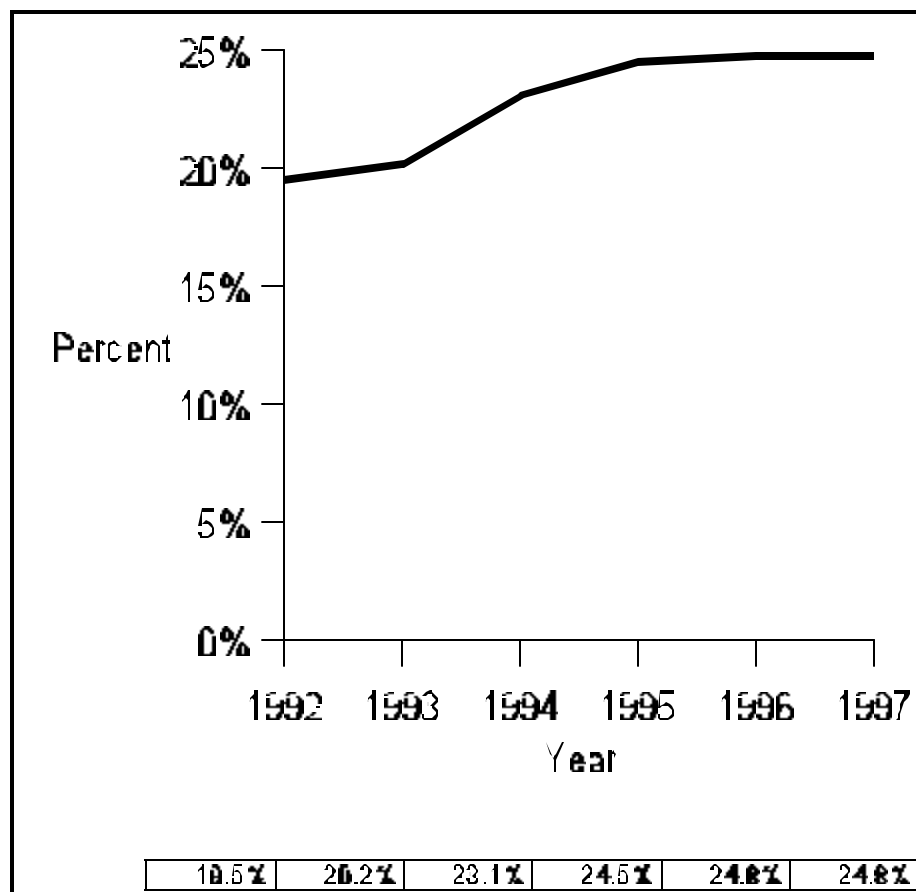


Figure I-G-1. 1992-1997 percent of BRFs respondents reporting weights which exceed BMI limits.

According to the 1997 BRFs, the physical dimensions of 24.8% of respondents exceeded the BMI standard for overweight (Figure I-G-1). This percentage has not changed from 1996. This is the highest reported proportion of overweight Arizonans this decade. Persons who are overweight are mostly: White (85.0%) between the ages 25 and 34 years of age (22.7%), with a high school education (33.6%). Although most overweight Arizonans are White, Non-Whites have the highest prevalence of being overweight (32.3%)

(see chart on page 2).

Healthy People 2000 Objective 1.2 lists the goal to reduce overweight to a prevalence of #20% among adults 20 years of age or older (defined as a BMI ≥ 27.8 for men and a BMI ≥ 27.3 for women) and #15% among adults 18 to 19 years of age (defined as a BMI ≥ 25.8 for men and a BMI ≥ 25.7 for women).⁴ Several diseases are associated with obesity, and even modest weight losses can result in reduced risk. The health effects of weight loss, weight gain, and weight maintenance has received extensive review, with the following major findings: *Cardiovascular Disease* - The optimal BMI regarding this disease is 22.6 for men

and 21.1 for women. At those levels, there appears to be 25% less heart disease and 35% fewer strokes or episodes of heart

1997 Arizona BRFs Characteristics of overweight persons	
GROUPS	PERCENTAGE
<u>Sex</u>	
Male	50.0
Female	50.0
<u>Age</u>	
18-24	9.1
25-34	22.7
35-44	20.2
45-54	20.4
55-64	12.4
65+	15.2
<u>Education</u>	
Never Attended School	
Elementary	2.9
Some High School	7.5
High School Graduate or GED	33.6
Some College or Tech School	29.7
College Grad	26.3
<u>Income</u>	
< \$10,000	2.0
\$10-\$14,999	2.1
\$15-\$19,999	6.7
\$20-\$24,999	15.0
\$25-\$34,999	25.7
\$35-\$49,999	12.6
\$50-\$74,999	10.2
\$75,000	3.1
Refused/Unknown	22.7
<u>Race</u>	
White	85.0
Non-White	15.0
<u>Ethnicity</u>	
Hispanic	23.4
Non-Hispanic	76.6

Table I-G-1. 1997 BRFs results: characteristics of persons with BMI \$ 27.3 (females) or BMI \$ 27.8 (males).

failure.² *Diabetes* - In both men and women, the highest prevalence of diabetes occurs at a BMI greater than 28.³ Between 80% and 90% of people with Type II diabetes mellitus are obese.² *Hypertension* - Risk of hypertension increases with a BMI of greater than 22. Hypertension is two times more common among obese persons.² *Osteoarthritis* - There is an increased incidence of osteoarthritis at a BMI of 25 or greater.³ In men, a decrease of approximately four BMI units resulted in a 21.4% decrease in the rate of symptomatic osteoarthritis of the knee.³ *Selected Cancers* - There is an increased risk of endometrial cancer in women with a BMI greater than 28. Similarly, there is an increased risk of breast cancer, especially after menopause, in women with BMI greater than 26.²

References

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2. Shape Up America, American Obesity Association. Guidance for Treatment of Adult Obesity. Bethesda: Shape Up America; 1996:1-95.
3. St. Jeor ST, Brownell KD, Atkinson RL. New Multidisciplinary Strategies in Obesity Management. Clark, New Jersey: Health Learning Systems; 1997.
4. National Center for Health Statistics. Healthy People 2000 Review, 1997.

H. SAFETY BELT USE

Nationwide 41,907 persons were killed in motor vehicle crashes in 1996. Nine hundred ninety five of these

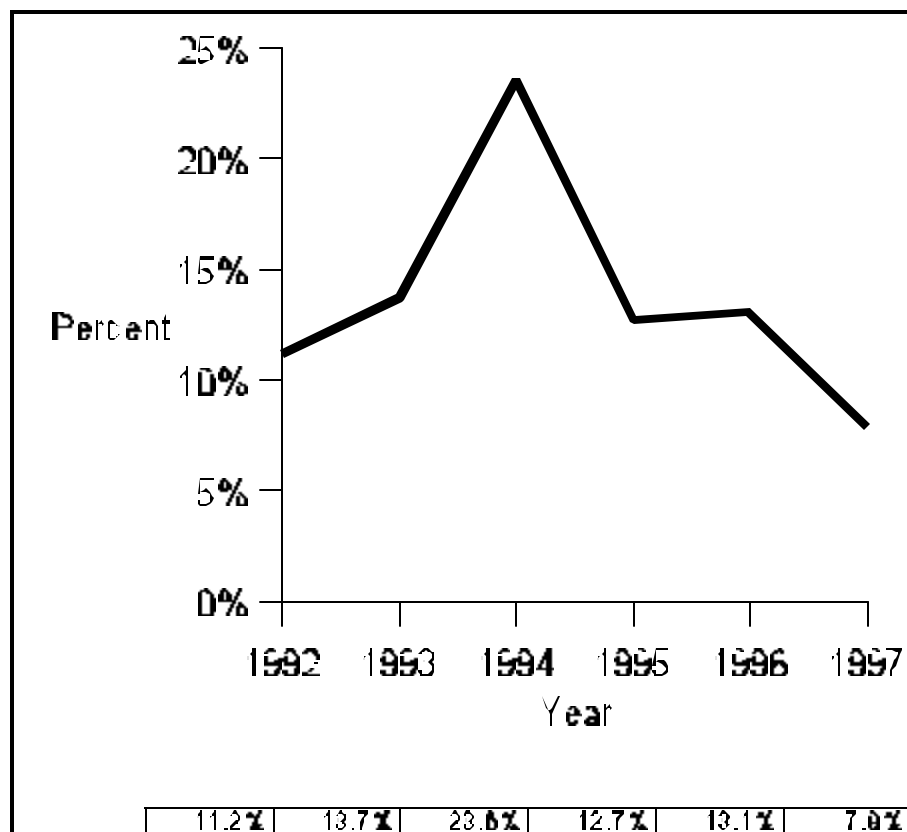


Figure I-H-1. 1992-1997 percent of BRFs respondents reporting they “sometimes,” “seldom” or “never” use safety belts.

persons were killed in Arizona. Nevertheless, the fatal crash rate for the U.S. and Arizona continues to steadily decline.¹ It is well known that safety belt use has contributed greatly to the decrease in motor vehicle fatalities.² The Arizona Department of Transportation’s 1996 report indicates 81.9% of all drivers involved in crashes that year were reportedly wearing safety belts.

Analysis of the 1997 Arizona BRFs showed 7.9% of all respondents reported that they “sometimes,” “seldom,” or “never” use safety belts. This is the lowest

percentage reported this decade. (Figure I-H-1).

Table I-H-1 indicates that persons who do not routinely wear safety belts are male (55.8%), and 18 to 24 years of age (27.7%), with a high school education (34.2%).

Healthy People 2000 Objective 9.3 targets motor vehicle crash deaths at 1.5 per 100 million miles traveled by the year 2000.³ Currently the Arizona fatality crash rate is 2.4 for 1996. This figure has not decreased significantly since the early 1990’s. The current 1996 U.S. fatality crash rate is 1.7.¹ Efforts in Arizona to decrease the fatality crash to not only equal the U.S. rate but meet the *Healthy People 2000* objective 9.3

will require continued crash fatality prevention as well as crash intervention efforts such as safety belts, air bags and infant car seats.

1997 Arizona BRFs Characteristics of safety belt use	
GROUPS	PERCENTAGE
<u>Sex</u>	
Male	55.8
Female	44.2
<u>Age</u>	
18-24	27.7
25-34	18.4
35-44	26.0
45-54	8.3
55-64	9.6
65+	10.1
<u>Education</u>	
Never Attended School	16.6
Elementary	
Some High School	
High School Graduate or GED	34.2
Some College or Tech School	31.0
College Grad	18.2
<u>Income</u>	
< \$10,000	14.0
\$10-\$14,999	
\$15-\$19,999	
\$20-\$24,999	14.0
\$25-\$34,999	17.2
\$35-\$49,999	24.0
\$50-\$74,999	
\$75,000	
Refused/Unknown	23.9
<u>Race</u>	
White	82.3
Non-White	17.7
<u>Ethnicity</u>	
Hispanic	18.3

Non-Hispanic

Table I-H-1. 1997 BRFs results: characteristics of persons reporting they “sometimes”, “seldom”, or “never” use safety belts.

References

1. Arizona Motor Vehicle Crash Facts 1996. Motor Vehicle Crash Statistics Unit, Arizona Department of Transportation.
2. National Highway Traffic Safety Administration. 1989 Estimates of Lives Saved. Washington: Department of Transportation. 1990.
3. National Center for Health Statistics. Healthy People 2000 Review, 1997. Hyattsville, Maryland: Public Health Service. 1997.

I. LEISURE-TIME ACTIVITY

Physical activity and exercise are critical elements in the promotion of health in adults. Age-appropriate exercise habits reduce the risk of hypertension, diabetes mellitus, colon cancer, osteoporosis, and immune system dysfunction.^{1, 2} Regular exercise also can contribute to the functional independence of the elderly and improves the quality of life for people of all ages.³

Analysis of the 1997 Arizona BRFs shows 38.6% of all respondents reported no leisure-time physical activity within the past month (Figure I-I-1). This has increased five percent from 1996, and continues to show a trend of Arizonans becoming less physically active.

More women (55.8%) than men (44.2%) reported no leisure-time activity. The highest percentages of inactive persons were 65 years of age or older (23.2%) and 35 to 44 years of age (21.4%) (Table I-I-1). Although inactivity was greatest among low income and less educated individuals (see chart on page 2), Table I-I-1 shows most inactive persons having a high school education, some college or technical school

(71.6%) and earning annual incomes of \$20,000 to \$49,999 (47.3%).

Finally, *Healthy People 2000* Objective 1.5 sets a target for no leisure-time activity at no greater than 15% for adults of all ages.⁴

With the apparent rise in the percentage of inactivity in Arizona recently, special efforts toward exercise and physical activity promotion will need to be implemented in order to reach the 15% target by the year 2000.

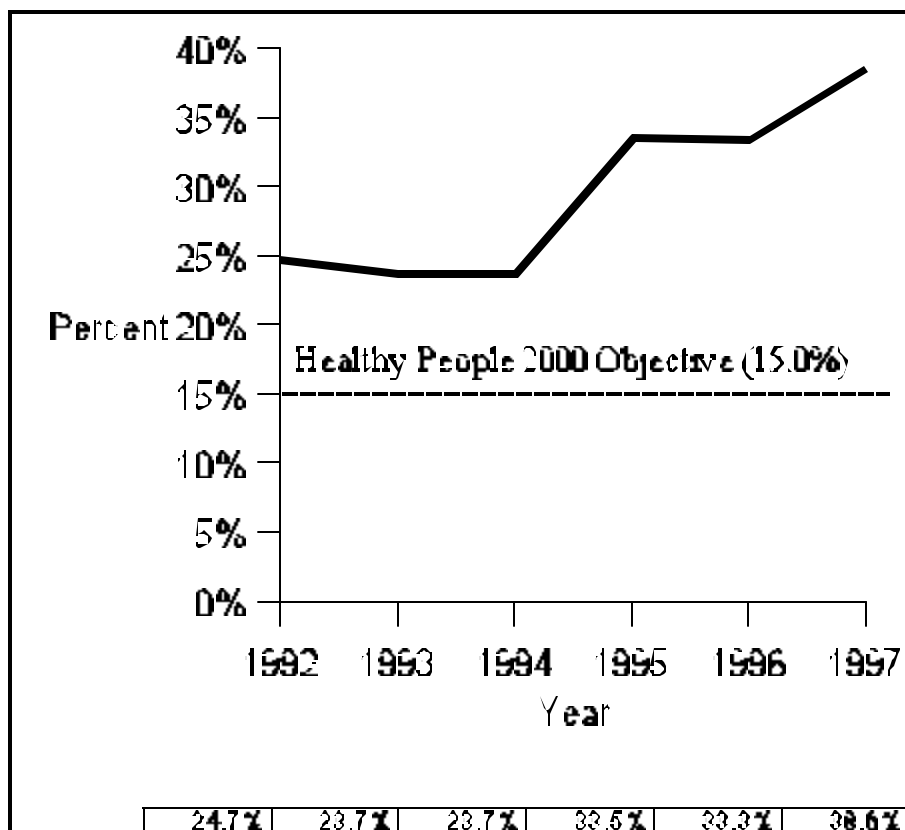


Figure I-I-1. 1992-1997 percent of BRFs respondents reporting that they did not participate in physical activity in the past month along with the Healthy People 2000 Objective 1.5.

1997 Arizona BRFs Characteristics of persons with no leisure-time activity	
GROUPS	PERCENTAGE
<u>Sex</u>	
Male	44.2
Female	55.8
<u>Age</u>	
18-24	10.7
25-34	16.2

35-44
45-54
55-64
65+
<u>Education</u>
Never Attended School
Elementary
Some High School
High School Graduate or GED
Some College or Tech School
College Grad
<u>Income</u>
< \$10,000

\$10-\$14,999	4.6
\$15-\$19,999	6.3
\$20-\$24,999	15.4
\$25-\$34,999	20.6
\$35-\$49,999	11.3
\$50-\$74,999	3.7
\$75,000	1.0
Refused/Unknown	34.3
<u>Race</u>	
White	85.1
Non-White	14.9
<u>Ethnicity</u>	
Hispanic	19.9
Non-Hispanic	80.0
Refused	0.1

Table I-I-1. 1997 BRFSS results: characteristics of persons reporting that they did not participate in physical activity during the past month.

References

1. Siscovick DS, et al. Disease Specific Benefits and Risks of Physical Activities and Exercise. Public Health Reports, 1985; 100(2): 180-188.
2. Venjatraman JT, Fernandes G. Exercise, Immunity an Aging. Aging, 1997; 9(1-2): 42-56.
3. Katz S, Branch LG, Branson MH, et al. Active Life Expectancy. N Engl J Med, 1983; 309: 1218-1224.
4. National Center for Health Statistics. Healthy People 2000 Review, 1997. Hyattsville, Maryland: Public Health Service. 1997.

J. CIGARETTE SMOKING

Tobacco use is responsible for one out of every five deaths in the U.S.^{1, 2} Cigarette smoking is a major contributor to diseases such as lung cancer, oral cancer and heart disease. Smoking is also found to be associated with depression, anxiety disorders, and SIDS.^{3 - 5} Approximately 50% of all regular smokers die from a smoking-related illness.⁶

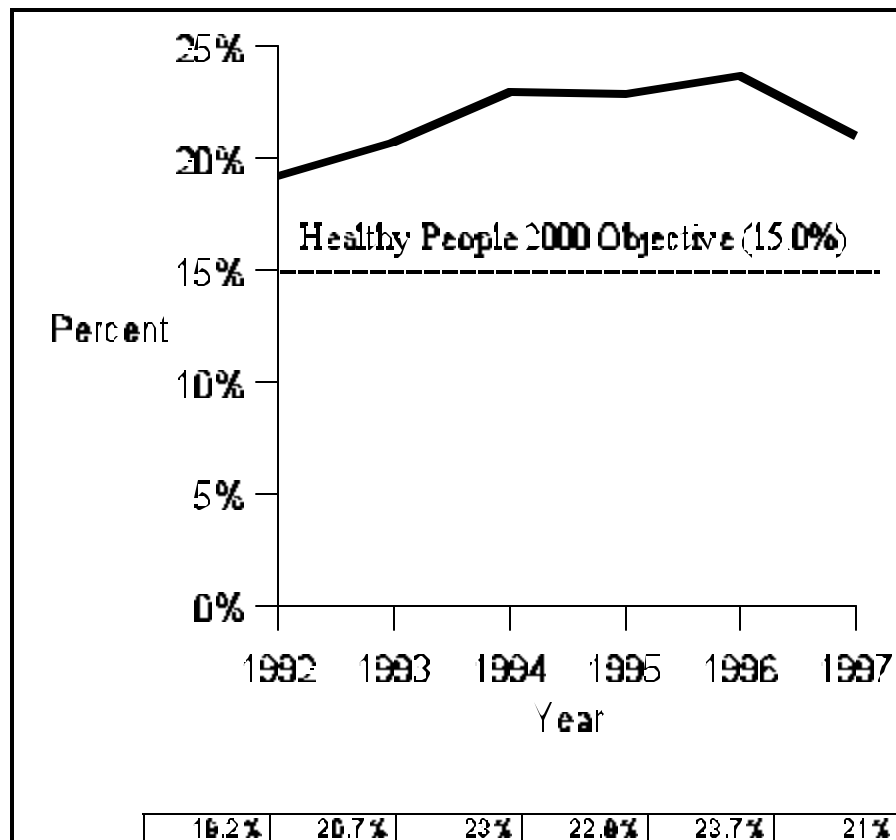


Figure I-J-1. 1992-1997 percent of BRFs respondents reported that they were current smokers along with the Healthy People 2000 Objective 3.4.

According to the 1997 Arizona BRFs, 21.0% of those surveyed reported that they currently are smokers. This percentage has decreased slightly from 1996 (Figure I-J-1). There was little difference in smokers by gender (Male 50.7%, Female 49.3%). Smokers were found to be primarily White, Non-Hispanic (89.7%) between the ages of 25 and 44 years old (47.7%) (Table I-J-1). The percentage within demographic groups, presented in the chart on page 3, shows that annual income was not a strong factor associated with smoking behavior in adults. The percentage of low income persons choosing

to be smokers (15.2-25.8%) is not very different from that of middle income persons who choose to be smokers (15.2-28.6%).

While the 1997 BRFs shows a decrease in the rate of adult smokers it will take time to see if this is a true trend. Regardless, Arizona's smoking rates are still higher than the Healthy People 2000 objective 3.4 that sets a target to reduce cigarette smoking to no more than 15% among persons 18 years of age or older.⁷ Hence, continued efforts to prevent initial smoking behavior in adolescents, as well as efforts to promote smoking cessation in current smokers using techniques that have documented effectiveness, may decrease the rate of Arizona smokers to meet the *Healthy People 2000* Objective 3.4.

1997 Arizona BRFs Characteristics of current smokers	
GROUPS	PERCENTAGE
<u>Sex</u>	
Male	50.7
Female	49.3
<u>Age</u>	
18-24	14.2
25-34	24.0
35-44	23.7
45-54	19.4
55-64	12.7
65+	6.0
<u>Education</u>	
Never Attended School	10.3
Elementary	
Some High School	
High School Graduate or GED	35.2
Some College or Tech School	37.2
College Grad	17.2
Refused	0.1
<u>Income</u>	
< \$10,000	2.9
\$10-\$14,999	2.4
\$15-\$19,999	6.2
\$20-\$24,999	16.8
\$25-\$34,999	31.0
\$35-\$49,999	11.2
\$50-\$74,999	7.1
\$75,000	
Refused/Unknown	22.4
<u>Race</u>	
White	89.7
Non-White	10.3
<u>Ethnicity</u>	
Hispanic	15.4
Non-Hispanic	84.5
Refused	0.1

Table I-J-1. 1997 BRFs results: characteristics of persons reporting that they are current smokers and have smoked at least 100 cigarettes in their life.

References

1. Centers for Disease Control and Prevention. Smoking-Attributable Mortality and Years of Potential Life Lost-United States, 1990. MMWR. 1993.
2. Leigh JP. Occupations, Cigarettes Smoking, and Lung Cancer in the Epidemiological Follow-up to the NHANES I and the California Occupational Mortality Study. Bull N Y Acad Med, 1996; 73(2): 370-397.
3. Slattery ML, Potter JD, Friedman GD, Ma KN, Edward S. Tobacco Use and Colon Cancer. Int J Cancer, 1997; 70 (3):259 - 264.
4. Breslau N. Psychiatric Comorbidity of Smoking and Nicotine Dependence. Behav Genet, 1995; 25(2): 95-101.
5. MacDorman MF, Cnattingius S, Hoffman HJ, Kramer MS, Haglund B. Sudden Infant Death Syndrome and Smoking in the United States and Sweden. AmJEpidemiology, 1997; 146(3): 249-257.
6. Doll R, Peto R, Wheatley K, Gray R, Sutherland I. Mortality in Relation to Smoking: 40 Years' Observations on Male British Doctors. British Med J, 1994; 309:901-911.
7. National Center for Health Statistics. Healthy People 2000 Review, 1997. Hyattsville, Maryland: Public Health Service. 1997.

K. FRUIT/VEGETABLE CONSUMPTION

It has been known for many years that diet plays a large role in the quality of long-term health. For adults who do not drink excessively or smoke, diet is the most significant controllable risk factor that determines their health status.¹ On the average, 10% to 70% of all cancer deaths can be attributed to poor diet habits.²

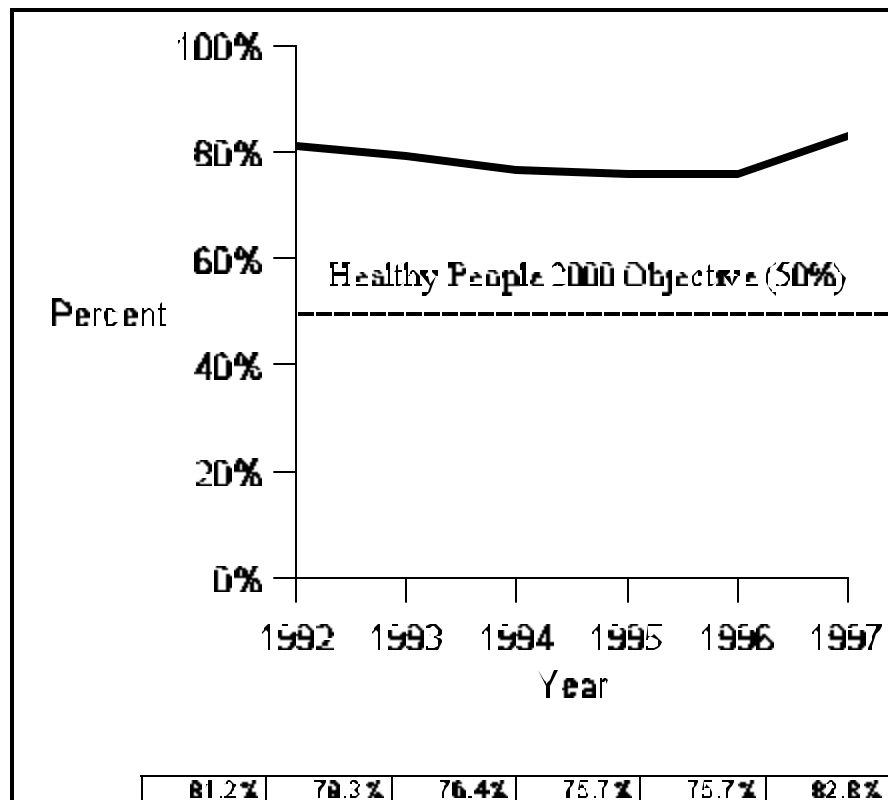


Figure I-K-1. 1992-1997 percent of BRFs respondents reporting that they consume less than 5 servings of fruits/vegetables per day along with the Healthy People 2000 Objective 2.6.

One of the most important diet habits to follow is consumption of at least 5 servings of fruits/vegetables per day. Analysis of the 1997 Arizona BRFs shows that 82.8% of respondents reported that they consume less than 5 servings of fruits/vegetables per day (Figure I-K-1). This percentage is the highest recorded this decade. Persons who stated that they consume less than 5 servings of fruits/vegetables per day are primarily younger, 18 to 54 years of age, (72.7%) and have a high school education, some college or technical school (67.4%) (Table I-K-1).

Healthy People 2000

Objective 2.6 has set a target to increase to at least 50% the proportion of persons consuming at least 5 fruits/vegetables per day.³ Since the current proportion of Arizona residents who have achieved objective 2.6 is 17.2% , at least the difference of an additional 32.8% of the population with poor diet habits still needs to be consuming at least 5 fruits/vegetables per day in order to obtain this objective. The current increase in Arizonans failing to eat at least 5 fruits/vegetables per day suggests a more effective approach is necessary to promote the benefits of consuming the proper quantity of fruits and vegetables each day if the *Healthy People 2000* Objective 2.6 is to be met.

Some High School	5.1
High School Graduate or GED	35.8
Some College or Tech School	31.6
College Grad	25.5
Refused	0.2
<u>Income</u>	
< \$10,000	2.3
\$10-\$14,999	3.7
\$15-\$19,999	5.1
\$20-\$24,999	13.2
\$25-\$34,999	23.4
\$35-\$49,999	15.8
\$50-\$74,999	7.7
\$75,000	2.3
Refused/Unknown	26.5
<u>Race</u>	
White	89.7
Non-White	10.3
<u>Ethnicity</u>	
Hispanic	16.6
Non-Hispanic	83.2
Refused	0.1

Table I-K-1. 1997 BRFs survey results: characteristics of persons reporting that they do not consume at least 5 servings of fruits/ vegetables per day.

References

1. U.S. Department of Health and Human Services. The Surgeon General's Report on Nutrition and Health. Washington: Public Health Service. 1988.
2. Doll R, Peto R. The Causes of Cancer: Quantitative Estimates of Avoidable Risks of Cancer in the United States Today. J Natl Cancer Inst., 1981; 66(6): 1191-1308.
3. National Center for Health Statistics. Healthy People 2000 Review, 1997. Hyattsville, Maryland: Public Health Service. 1997.

II

MODULE SURVEY RESULTS: ANALYSIS OF HIGH RISK GROUPS

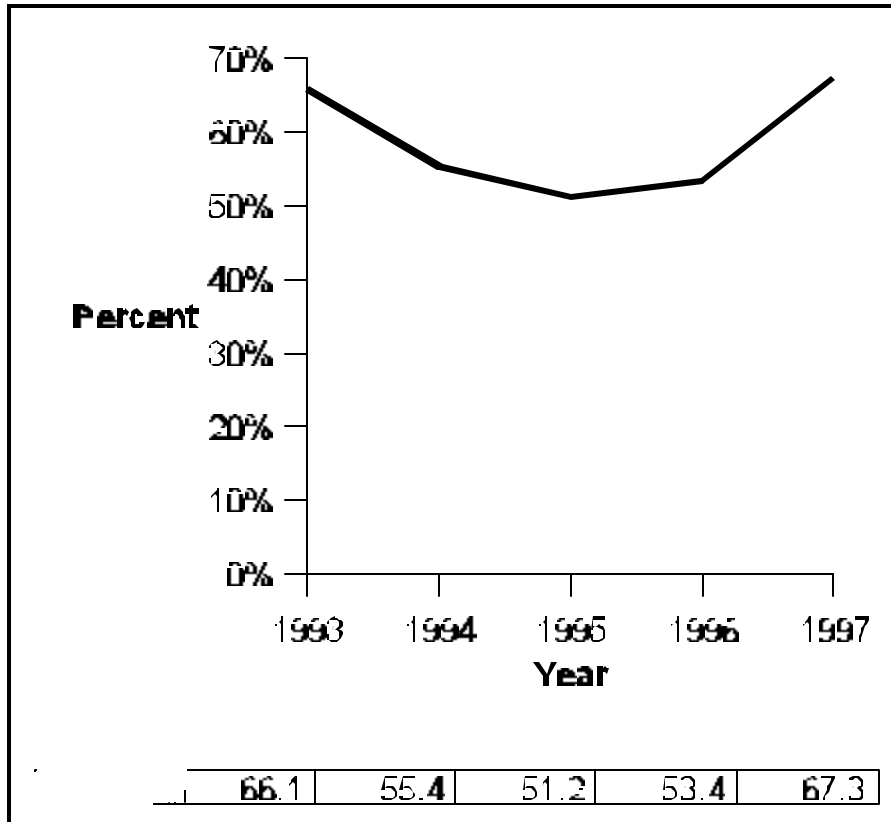


Figure II-A-1. 1993-1997 percent of BRFSS respondents age 18 to 64 years of age reporting that they have not been tested for HIV.

A. HIV/AIDS

Human Immunodeficiency Virus or HIV is the virus that causes Acquired Immune Deficiency Syndrome, AIDS. AIDS is a disease that weakens the body's immune system, making a person susceptible to life-threatening opportunistic infections. HIV is now the second leading cause of death among young adults (25-44) in the United States.¹ As of January 1998, 9,435 cases of HIV infection have been reported in Arizona.

It is vital for people infected with HIV disease to obtain early medical care to slow the disease progression,

and improve their length and quality of life. It is estimated that more than half of the people infected with HIV do not know they are infected.²

Questions regarding HIV/AIDS were asked only of Arizona residents 18 to 64 years of age. Findings from the 1997 BRFSS show that over two-thirds (67.3%) of Arizonans surveyed have not been tested for HIV (Figure II-A-1). When asked: 'What are your chances of getting infected with HIV, the disease that causes AIDS?', only 1.0% said high, while 75.0% reported no chance. No significant difference in perceived chance of HIV infection was identified between those who had tested for HIV and those who have not.

The 1997 BRFSS also asked some questions assessing changes in sexual behavior due to what they knew about HIV. An overwhelming majority (70.2%) reported that they are now more careful in selecting sexual partners. When asked if their knowledge about HIV has caused them to change their sexual behavior in the last 12 months, only 5.0% responded 'yes.' Persons who had tested for HIV were almost twice as likely to say 'yes' to changes in sexual behavior when compared with non-tested respondents.

1997 Arizona BRFSS Characteristics of persons not tested for HIV	
GROUPS	PERCENTAGE
<u>Sex</u>	
Male	49.7
Female	50.3
<u>Age</u>	
18-24	13.4
25-34	22.0
35-44	26.2
45-54	21.4
55-64	17.1
65+	-
<u>Education</u>	
Never Attended School	2.6
Elementary	
Some High School	4.5
High School Graduate or GED	38.8
Some College or Tech School	31.3
College Grad	23.3
<u>Income</u>	
< \$10,000	2.6
\$10-\$14,999	4.3
\$15-\$19,999	5.0
\$20-\$24,999	11.4
\$25-\$34,999	24.1
\$35-\$49,999	18.7
\$50-\$74,999	6.9
\$75,000	1.0
Refused/Unknown	26.0
<u>Race</u>	
White	86.9
Non-White	13.1
<u>Ethnicity</u>	
Hispanic	18.2
Non-Hispanic	81.7
Refused	0.1

Table II-A-1. 1997 BRFSS survey results: characteristics of persons 18 - 64 years of age reporting that they have not been tested for HIV.

The majority of these respondents are between the ages of 25 and 54 years old (69.6%), and 93.4% of them are at least high school graduates. Persons who have not tested for HIV are predominately White (86.9%) and non-Hispanic (81.7%). The median income group for these people was \$25,000-\$34,999.

Who should test for HIV? If a person has engaged in behavior that can transmit HIV, it is important to consider testing. The following are known risk factors for HIV infection.

1. Sharing needles or syringes to inject drugs or steroids;
2. If you have ever had a sexually transmitted disease;
3. Received a blood transfusion or clotting factor between 1978 and 1985;
4. If you have had unprotected sex with someone and not known their HIV status.³

References

1. Ventura SJ, Peters KD, Martin JA, Maurer JD. Births and Deaths, 1996. Monthly vital statistics report; vol 46 no 1, supp2. National Center for Health Statistics. 1997.
2. Graham NM. Epidemiology of acquired immunodeficiency syndrome: advancing to an endemic era. American Journal of Medicine. April;102(4A):2-8. 1997.
3. Facts about HIV/AIDS. ADHS HIV/AIDS brochure. 1998.

Table II-A-1. describes persons who have never tested for HIV.

B. CHOLESTEROL AWARENESS

High blood cholesterol is a major risk factor for coronary heart disease. It is estimated that 96.8 million American adults (51%) have borderline high cholesterol, while an additional 20% have high blood cholesterol levels of 240 mg/dL or above.¹ When a person's total blood cholesterol level reaches 240 mg/dL or higher the risk of coronary heart disease approximately doubles.¹

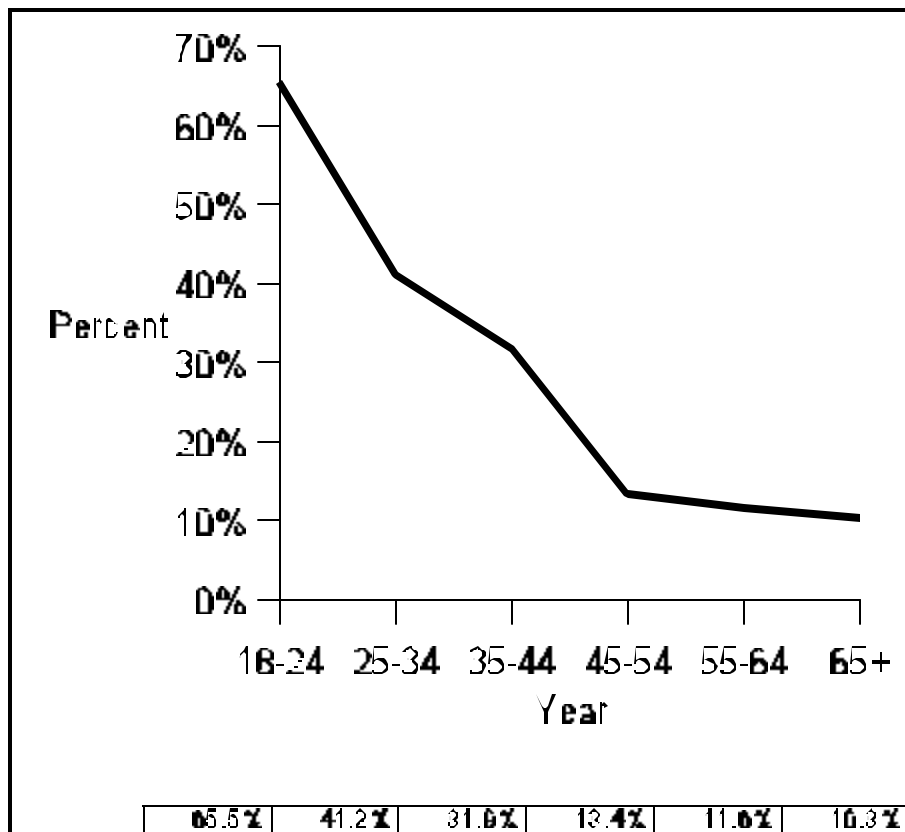


Figure I-B-1. 1997 percent of BRFs respondents from each age group reporting they have never had their blood cholesterol level checked.

Analysis of the 1997 Arizona BRFs showed that 28.6% of Arizonans reported never having their blood cholesterol checked. More than half (53.6%) of these respondents are male, and 81.4% are between the ages of 18 and 44 years old. Arizonans who have never had their blood cholesterol checked are also well educated, 90.2% are at least high school graduates.

What can people do to reduce their risk of developing a high blood cholesterol level? Factors every one can control include: eating a diet low in saturated fat, total fat, and

cholesterol; exercising moderately three times a week for 30 minutes or more;

Total Cholesterol		
Desirable Blood Cholesterol	Borderline-High Blood Cholesterol	High Blood Cholesterol
Less than 200 mg/dL	200 - 239 mg/dL	240 mg/dL and higher

Table II-B-1 National Heart, Lung, and Blood Institute. What Do Your Cholesterol Numbers Mean?

1997 Arizona BRFSS Characteristics of persons who have never had their blood cholesterol level checked	
GROUPS	PERCENTAGE
<u>Sex</u>	
Male	53.6
Female	46.4
<u>Age</u>	
18-24	27.7
25-34	30.1
35-44	23.6
45-54	7.6
55-64	4.4
65+	6.7
<u>Education</u>	
Never Attended School	
Elementary	3.8
Some High School	5.9
High School Graduate or GED	37.2
Some College or Tech School	29.0
College Grad	24.0
<u>Income</u>	
< \$10,000	2.8
\$10-\$14,999	7.0
\$15-\$19,999	9.4
\$20-\$24,999	16.5
\$25-\$34,999	23.7
\$35-\$49,999	15.6
\$50-\$74,999	
\$75,000	4.5
Refused/Unknown	20.6
<u>Race</u>	
White	83.4
Non-White	16.6
<u>Ethnicity</u>	
Hispanic	22.8
Non-Hispanic	77.1
Refused	0.1

Table II-B-2. 1997 BRFSS survey results: characteristics of persons who have never had their blood cholesterol level checked.

do not smoke. Additionally, every adult 20 years of age or older, should have his/her blood cholesterol level checked at least every five years.²

References

1. American Heart Association, 1998.
2. Step by Step - Eating to Lower Your High Blood Cholesterol. National Institutes of Health. National Heart, Lung, and Blood Institute, 1997.

C. INFLUENZA VACCINATION

Influenza is a significant cause of morbidity. Elderly persons with chronic diseases are at high risk for influenza morbidity and mortality.¹ There are 3 types of influenza viruses; A, B and C. Type A viruses are responsible for most influenza epidemics. Since treatment of influenza can only minimize its symptoms, epidemics are most preventable through vaccination against current strains of disease.²

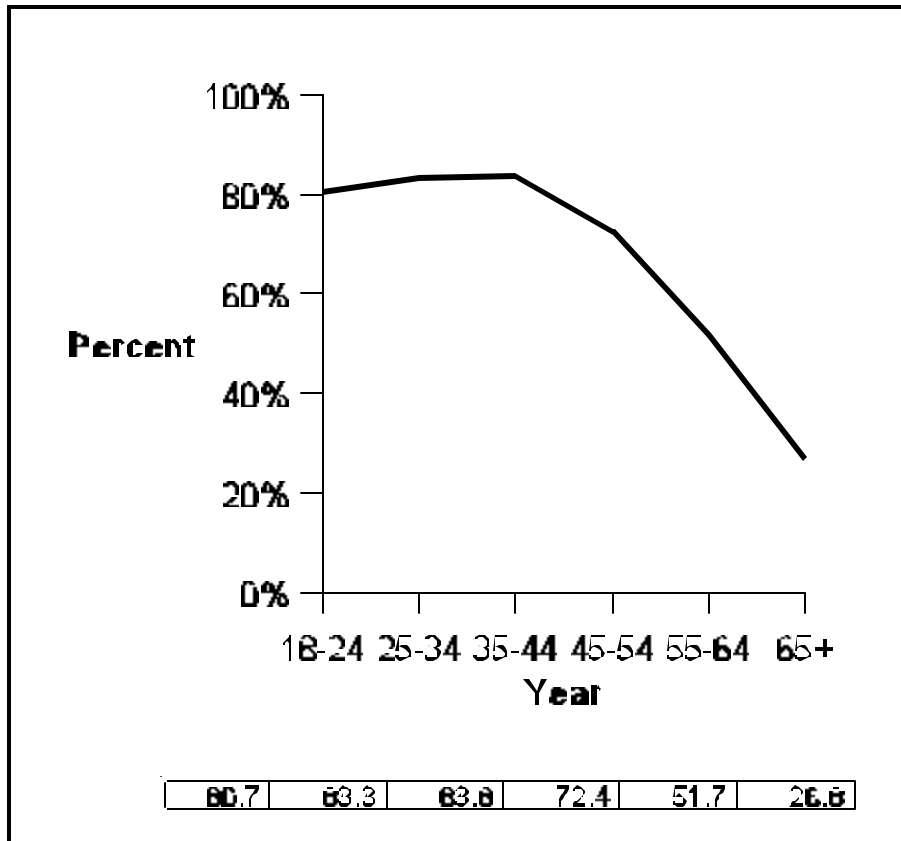


Figure II-C-1. 1997 percent of BRFs respondents from each age group reporting they have not had a influenza vaccination in the last 12 months.

As part of the Arizona 1997 BRFs, respondents were asked if they had received an influenza vaccination within the last 12 months. Sixty seven percent of all persons reported that they have not received an influenza vaccination within the last 12 months. The percentage of individuals within each age group, responding negatively to this question, is shown in Figure II-C-1. As age increased so did the rate of influenza vaccination. Among persons not receiving an influenza vaccination in the last 12 months, 52.3% were between the age of 25 and 44, 58.8% had a college or technical school

education, and 54.2% reported an annual income of \$20,000 to \$49,999 (Table II-C-1).

Objective 20.11 in *Healthy People 2000* targets influenza vaccinations at a minimum of 60% in persons 65 years of age or older.³ The reported percentage of persons 65 years or older in Arizona that received an influenza vaccination in the last 12 months was 72.1%. This is 12.1% above the objective 20.11.

Since new strains of influenza periodically emerge, annual vaccinations are necessary to provide

Some High School	5 .0
High School Graduate or GED	34.9
Some College or Tech School	29.9
College Grad	27.9
<u>Income</u>	
< \$10,000	2.7
\$10-\$14,999	4.2
\$15-\$19,999	6.3
\$20-\$24,999	13.8
\$25-\$34,999	24.2
\$35-\$49,999	16.2
\$50-\$74,999	7.2
\$75,000	2.3
Refused/Unknown	23.0
<u>Race</u>	
White	86.7
Non-White	13.3
<u>Ethnicity</u>	
Hispanic	19.1
Non-Hispanic	80.8
Refused	0.1

Table II-C-1. 1997 BRFs results: characteristics of persons reporting that they received no influenza vaccination in the past 12 months.

constant protection against infection. Vaccination against influenza is recommended as a part of routine health care for persons age 65 and older, and younger persons at risk of medical complications if they should contract influenza. Health care professionals should continue to inform their high risk populations, toward the end of each year, to be vaccinated against current influenza strains.

References

1. Reece SM. Preventing Influenza and its Complications: a Public Health Initiative for the Year 2000. *Nurse Pract*, 1995; 20(9): 32-36, 44.
2. Benenson AS (ed). *Control of Communicable Diseases in Man*. American Public Health Association. Washington D.C., 1990.
3. National Center for Health Statistics. *Healthy People 2000 Review*, 1997. Hyattsville, Maryland: Public Health Service. 1997.

D. INJURY CONTROL

Intentional and unintentional injuries are among the leading causes of death nationwide and in Arizona.¹ Injuries sustained due to motor vehicle crashes, violence, occupational hazards, poisonings and many other causes fuel the high mortality rate which can be a consequence of these incidents.² Among the most preventable of these are bicycle-related head injuries and burn-related injuries in the home.

According to the 1997 Arizona BRFS, less than half (39.5%) of all oldest children who ride a bicycle always wear a bicycle helmet (Figure II-D-1). Of those reporting that their oldest child never wears a helmet while riding a bicycle, 46.3% earn more than \$25,000 per year, 48.1% have some college education or are a

college graduate, 80.1% are White and 73.8% are non-Hispanic.

Respondents were also surveyed on how often they test all the smoke detectors in their house. Surprisingly, 71.4% responded that all smoke detectors in their house were tested 0 to 6 months ago (Figure II-D-2). Persons who responded that they never test all their smoke detectors were primarily male (52.9%), have some college education or are a college graduate (44.0%), 90.0% are White, and 73.9% are non-Hispanic.

Persons in homes without smoke detectors are two times as likely to die from burn-related injuries as those in homes with smoke detectors.³ Of all respondents surveyed 5.5% said they had no smoke detectors in

their home. This percentage is lower than the 8.0% cited from the Pennsylvania BRFS results.⁴

The information presented from the adult respondents with children show the majority of these adults are well educated with average to above average incomes. Common excuses given by parents for lack of bicycle helmet ownership by children from one study include “never thought about purchasing a helmet,” “never got around to purchasing a helmet,” “child wouldn’t wear it anyway,” and “too expensive”. In contrast, most children who are without helmets said they would wear one if they had one. There is evidence that parental rules are associated with bicycle helmet use by children.⁵ Efforts by health care professionals to encourage parents to purchase bicycle helmets and enforce their use, may increase regular helmet use in children.

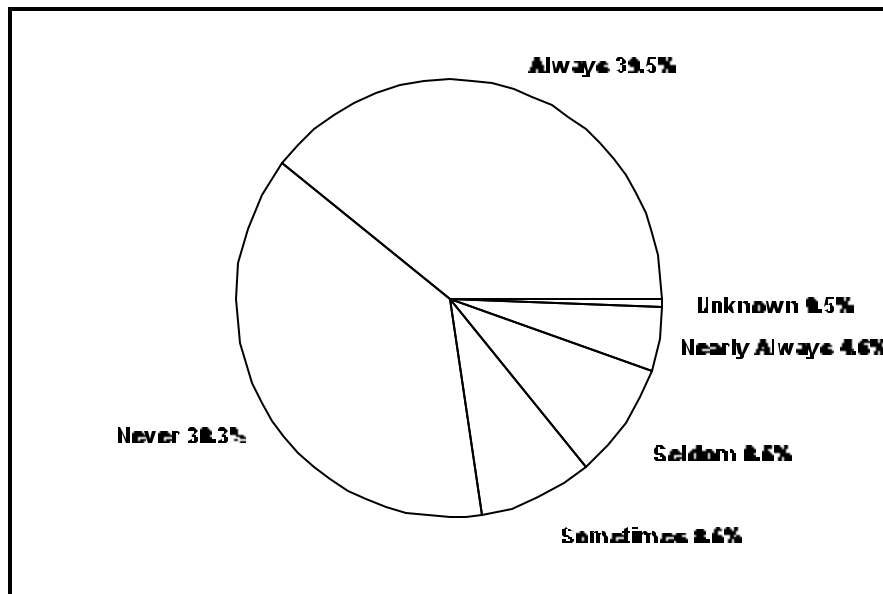


Figure II-D-1. 1997 Arizona BRFS: How often the oldest child has worn a bicycle helmet out of all oldest children who ride a bicycle.

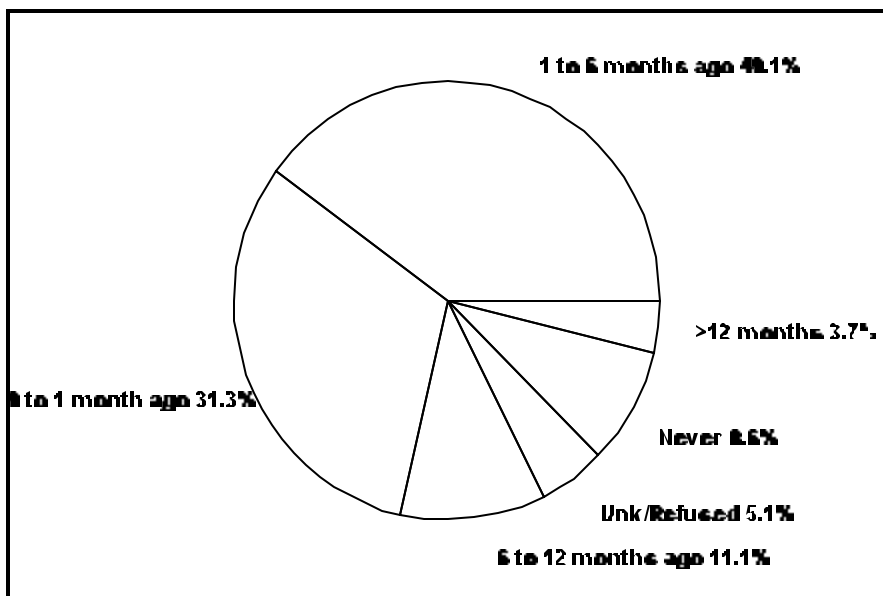


Figure II-D-2. 1997 Arizona BRFS: Last time that all the smoke detectors in the respondent's house were tested.

References

1. Mrela C. Arizona Health Status and Vital Statistics. Office of Health Planning, Evaluation and Statistics. Arizona Department of Health Services, 1996.
2. Position Papers from: The Third National Injury Control Conference "Setting the National Agenda for Injury Control in the 1990's". U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, 1992.
3. Hall JR Jr. A Decade of Detectors: Measuring the Effect. Fire J, 1985; 79: 37-43.
4. Forjuoh SN, Coben JH, Dearwater SR, Weiss HB. Identifying Homes with Inadequate Smoke Detector Protection from Residential Fires in Pennsylvania. J Burn Care Rehabil, 1997; 18(1 Pt 1): 86-91.
5. Miller PA, Binns HJ, Christoffel KK. Children's Bicycle Helmet Attitudes and Use. Association with Parental Rules. Arch Pediatr Adolesc Med, 1996; 150(12): 1259-1264.

E. FOLIC ACID AWARENESS

Each year in the United States, approximately 4000 pregnancies are affected by neural tube defects (NTDs).¹ Studies have shown that up to 50% of neural tube defects (NTDs) such as spina bifida and anencephaly are preventable through adequate intake of folic acid.² Folic acid is a B vitamin that helps form red blood cells and has been found to reduce the risks of certain types of birth defects, cancer and cardiovascular disease.³ While folic acid is important for everyone's health, it is especially vital for women of childbearing age.

Questions regarding knowledge of folic acid were only asked of Arizona women of childbearing age (18-44). Results from the 1997 BRFs show that when asked why health experts recommend that all women of childbearing age consume 400 mcg of folic acid daily, just over half (52.8%) knew folic acid prevented birth defects. This has changed greatly from 1996 when the percentage was much lower at 30.5%. The percentages in figures II-E-1. suggest a continued need to educate Arizona women of childbearing age about folic acid and the role it plays in healthy babies.

The 1997 BRFs also surveyed women's vitamin usage. Of those responding, 45.7% report that they are

taking a vitamin. For women who consume a vitamin, 88.6% take a multivitamin. When asked how often they take a multivitamin, 85.7% of women reported at least once every day.

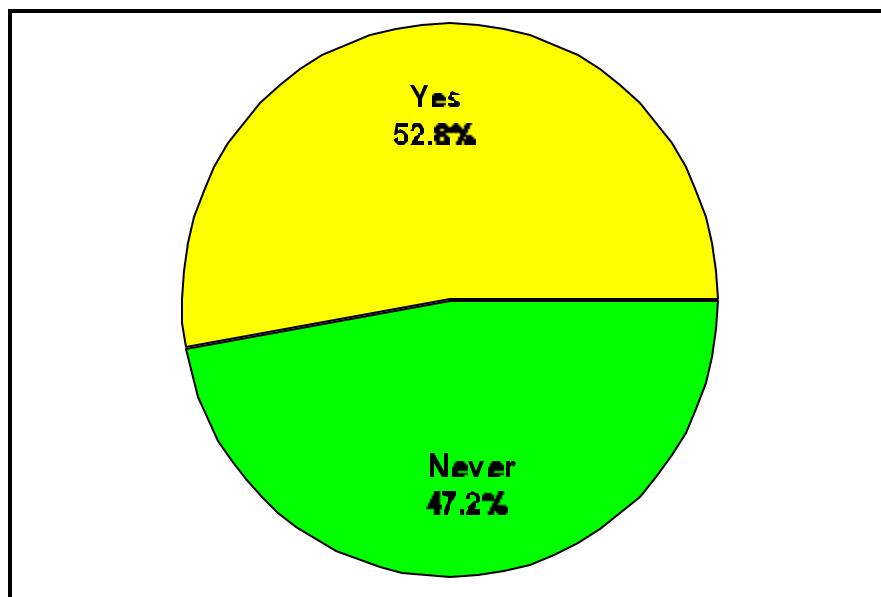


Figure II-E-1. Responses to the 1997 BRFs question: Does folic acid prevent birth defects?

Table II-E-1. describes survey respondents who reported as having never heard of folic acid. The majority of these women (54.0%) are between the ages 18 and 35 years of age, and 86.0% of them are at least high school graduates. Women who have never heard of folic acid are

primarily White (79.1%) and non-Hispanic (72.4%).

1997 Arizona BRFs Characteristics of women age (18-44) who did not know that folic acid prevented birth defects	
GROUPS	PERCENTAGE
<u>Sex</u>	
Male	-
Female	100
<u>Age</u>	
18-24	22.4
25-34	31.6
35-44	46.1
45-54	-
55-64	-
65+	-
<u>Education</u>	
Never Attended School	13.7
Elementary	
Some High School	
High School Graduate or GED	31.2
Some College or Tech School	28.8
College Grad	26.0
Refused	0.2
<u>Income</u>	
< \$10,000	11.0
\$10-\$14,999	
\$15-\$19,999	
\$20-\$24,999	11.2
\$25-\$34,999	23.6
\$35-\$49,999	12.9
\$50-\$74,999	18.0
\$75,000	
Refused/Unknown	17.1
<u>Race</u>	
White	79.1
Non-White	20.9
<u>Ethnicity</u>	
Hispanic	27.6
Non-Hispanic	72.4

Table II-E-1. 1997 BRFs survey results: characteristics of women who did not know that folic acid prevents birth defects. - = Not applicable

Lastly, the United States Public Health Service recommends that: All women of childbearing age in the United States who are capable of becoming pregnant should consume 0.4 mg (400 mcg) of folic acid per day for the purpose of reducing their risk of having a pregnancy affected with a neural tube defect.

References

1. Centers for Disease Control and Prevention. CDC Surveillance Summaries, August 8, 1997. MMWR 1997; 46 (No. 31).
2. Rayburn WF, Stanley JR, Garrett ME. Periconceptional folate intake and neural tube defects. Journal of the American College of Nutrition 15(2):121-5, 1996.
3. Campbell NR. How safe are folic acid supplements? Archives of Internal Medicine 156(15):1638-44 1996.

APPENDIX I.

1997 Arizona Demographic Profile	
GROUPS	PERCENTAGE
<u>Sex</u>	
Male	48.7
Female	51.3
<u>Age</u>	
18-24	12.1
25-34	20.9
35-44	21.2
45-54	16.2
55-64	11.0
65+	18.6
<u>Education</u>	
Never Attended School	0.4
Elementary	1.7
Some High School	5.1
High School Graduate or GED	34.1
Some College or Tech School	31.2
College Grad	27.4
Refused	0.2
<u>Income</u>	
< \$10,000	2.4
\$10-\$14,999	3.3
\$15-\$19,999	5.6
\$20-\$24,999	12.4
\$25-\$34,999	23.8
\$35-\$49,999	15.5
\$50-\$74,999	7.5
\$75,000	2.1
Refused/Unknown	27.4
<u>Race</u>	
White	88.3
Non-White	11.6
Refused	0.1
<u>Ethnicity</u>	
Hispanic	16.3
Non-Hispanic	83.6
Refused	0.1

Source: Weighted Percentages from the 1997 Arizona BRFS Sample.



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